### NRC FORM 618 U.S. NUCLEAR REGULATORY COMMISSION (8-2000) 10 CFR 71 CERTIFICATE OF COMPLIANCE FOR RADIOACTIVE MATERIAL PACKAGES a. CERTIFICATE NUMBER b. REVISION NUMBER d. PACKAGE IDENTIFICATION NUMBER c. DOCKET NUMBER PAGES 71-9297 USA/9297/AF-96 OF 9297 1 13 11

## 2. PREAMBLE

- a. This certificate is issued to certify that the package (packaging and contents) described in Item 5 below meets the applicable safety standards set forth in Title 10, Code of Federal Regulations, Part 71, "Packaging and Transportation of Radioactive Material."
- b. This certificate does not relieve the consignor from compliance with any requirement of the regulations of the U.S. Department of Transportation or other applicable regulatory agencies, including the government of any country through or into which the package will be transported.
- 3. THIS CERTIFICATE IS ISSUED ON THE BASIS OF A SAFETY ANALYSIS REPORT OF THE PACKAGE DESIGN OR APPLICATION
- a. ISSUED TO (Name and Address)
  Westinghouse Electric Company, LLC
  Nuclear Fuel
  Columbia Fuel Fabrication Facility
  5801 Bluff Road
  Hopkins, SC 29061
- b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION
  Westinghouse Electric Company, LLC, application
  Revision No. 15, as supplemented.

# 4. CONDITIONS

This certificate is conditional upon fulfilling the requirements of 10 CFR Part 71, as applicable, and the conditions specified below.

5.

# (a) Packaging

- (1) Model Nos.: Traveller STD, Traveller XL, Traveller VVER
- (2) Description

The Traveller package is designed to transport fresh uranium fuel assemblies with enrichment up to 5.0 weight percent or rods with enrichment up to 7.0 weight percent. The package is designed to carry one fuel assembly or one container for loose rods. The package consists of three components: 1) an outerpack, 2) a clamshell, and 3) a fuel assembly or rod container.

The outerpack serves as the primary impact and thermal protection for the fuel assembly and also provides for lifting, stacking, and tie down during transportation. Two independent impact limiters consisting of two sections of foam of different densities sandwiched between three layers of sheet metal are integral parts of the outerpack. Polyethylene foam sheeting may be positioned between the clamshell and the lower outerpack to augment shock absorbing characteristics during routine transportation. A weather gasket between the mating surfaces of the upper and lower outerpack provides a barrier to prevent rain from entering the package.

The purpose of the Clamshell is to protect the contents during routine handling and limit rearrangement of the contents in the event of a transport accident. During routine handling, the Clamshell doors open to load the contents and are secured with multi-point cammed

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# 5.(a)(2) Description (Continued)

latches and hinge pins. The Clamshell is a part of the confinement system that protects and restrains the fuel assembly or fuel rod tube contents during all transport conditions. Neutron absorber plates are installed on the inside surface of the clamshell along the full length of each main door and the top door.

There are two general types of clamshells used, a typical rectangular clamshell, and a hexagonal VVER Clamshell. The rectangular clamshell is used in both the Traveller STD and XL packages, with minor differences between the two. The VVER Clamshell is used in the Traveller VVER package. The STD/XL Clamshell consists of an aluminum "v" extrusion strong back. The VVER Clamshell is similar in build to the STD/XL Clamshell, however it has been designed for the transport of hexagonal fuel assemblies. All clamshell designs consist of an aluminum base and two aluminum panel doors, bottom and top end plates, and similar multi-point cammed latch closure mechanism. The clamshells use piano-type hinges (continuous hinges) to connect each main door to the strong back. The strong back and bottom plate are lined with a cork rubber pad to cushion and protect the contents during normal handling and transport conditions. The clamshell is fastened to the lower outerpack using shock absorbing rubber mounts.

The Traveller package is designed to carry loose rods using a container or rod pipe. The rod pipe consists of a 15.2 cm (6 in.) standard 304 stainless steel, Schedule 40 pipe, and standard 304 stainless steel closures at each end. The closure is a 0.635 cm (0.25 in.) thick cover secured with Type 304 stainless steel hardware to a flange fabricated from 0.635 cm (0.25 in.) thick plate.

There are three models of the Traveller packaging: the Traveller STD, the Traveller XL and the Traveller VVER.

### Traveller STD: Package gross weight 2,041 kilograms (kg) (4,500 pounds (lbs)) Packaging gross weight 1,293 kg (2,850 lbs) Contents gross weight 748 kg (1,650 lbs) Outer dimensions 500.4 cm (197 in.) Length Width 68.6 cm (27.0 in.) Height 99.8 cm (39.3 in.) Traveller XL: Package gross weight 2,372 kg (5,230 lbs) Packaging gross weight 1,476 kg (3,255 lbs) Contents gross weight 896 kg (1,975 lbs) Outer dimensions Length 574 cm (226.0 in.) Width 68.8 cm (27.1 in.) Height 99.8 cm (39.3 in.)

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Description (Continued) 5.(a)(2)

Traveller VVER:

Package gross weight 2,316 kg (5,105 lbs) Packaging gross weight 1,476 kg (3,255 lbs) Contents gross weight 840 kg (1,850 lbs)

Outer dimensions

Length 574 cm (226.0 in.) Width 68.8 cm (27.1 in.) Height 99.8 cm (39.3 in.)

### (3) Drawings

The packagings are fabricated and assembled in accordance with the following Westinghouse Electric Company's Drawing Nos.:

10004E58, Rev. 9 (sheets 1-9)

10006E58, Rev. 7

10037E43, Rev. 3 (sheets 1-8)

# 5. (b) Contents (Type and Form of Material)

- (1) PWR Group 1 Fuel Assembly
  - (i) Fresh PWR uranium dioxide fuel assemblies with a maximum uranium-235 enrichment of 5.0 weight percent, with an isotopic composition not exceeding a Type A quantity. The parameters of the fuel assemblies that are permitted are as follows:

# **Parameters for Square Lattice Group 1 Fuel Assemblies**

| Fuel Assembly<br>Description                      | Fabrication<br>Tolerance<br>Limit | 14 Bin 1           | 14 Bin 2           | 15 Bin 1           | Fabrication<br>Tolerance<br>Limit | 15 Bin 2           |
|---|-----------------------------------|--------------------|--------------------|--------------------|-----------------------------------|--------------------|
| Array Size  | 7/1                               | 14 x 14            | 14 x 14            | 15 x 15            |                                   | 15x15              |
| No. of Fuel Rods per Assembly                     | 2                                 | 176                | 179                | 204                | 2                                 | 205                |
| No. of Non-Fuel<br>Holes                          | 7 - 1                             | 20                 | 17                 | 21                 | co                                | 20                 |
| Nominal Pitch (in./cm)                            | +0.005<br>(+0.0127)               | 0.580<br>(1.4732)  | 0.556<br>(1.4122)  | 0.563<br>(1.4300)  | +0.0118<br>(+0.0300)              | 0.563<br>(1.4300)  |
| Minimum Fuel<br>Pellet Outer<br>Diameter (in./cm) | -0.0007<br>(-0.0018)              | 0.3805<br>(0.9665) | 0.3439<br>(0.8735) | 0.3582<br>(0.9097) | -0.0007<br>(-0.0018)              | 0.3580<br>(0.9092) |
| Minimum Cladding<br>Inner Diameter<br>(in./cm)    | -0.002<br>(-0.0051)               | 0.3855<br>(0.9792) | 0.3489<br>(0.8862) | 0.3636<br>(0.9237) | -0.002<br>(-0.0051)               | 0.3627<br>(0.9214) |
| Minimum Cladding<br>Thickness (in./cm)            | -0.002<br>(-0.0051)               | 0.0245<br>(0.0622) | 0.0228<br>(0.0579) | 0.0228<br>(0.0579) | -0.002<br>(-0.0051)               | 0.0265<br>(0.0674) |
| Maximum Active<br>Fuel Length (in./cm)            | +0.500<br>(+1.270)                | 136.70<br>(347.22) | 144.00<br>(365.76) | 144.00<br>(365.76) | +0.500<br>(+1.270)                | 139.76<br>(355.00) |

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5.(b)(1)(i) PWR Group 1 Fuel Assembly (Continued)

# Parameters for Group 1 Fuel Assemblies

| Fuel Assembly<br>Description        | Fabrication<br>Tolerance<br>Limit | 16 Bin 2 | 16 Bin 3 | 17 Bin 1 | 17 Bin 2 |
|-------------------------------------|-----------------------------------|----------|----------|----------|----------|
| Array Size                          | -                                 | 16x16    | 16x16    | 17x17    | 17x17    |
| No. of Fuel Rods per<br>Assembly    | -                                 | 236      | 235      | 264      | 264      |
| No. of Non-Fuel Holes               | - 1                               | 20       | 21       | 25       | 25       |
| Nominal Pitch (in./cm)              | +0.005                            | 0.506    | 0.485    | 0.496    | 0.502    |
|                                     | (+0.0127)                         | (1.2852) | (1.2319) | (1.2598) | (1.2751) |
| Minimum Fuel Pellet                 | -0.0007                           | 0.3220   | 0.3083   | 0.3083   | 0.3238   |
| OD (in./cm)                         | (-0.0018)                         | (0.8179) | (0.7831) | (0.7831) | (0.8225) |
| Minimum Cladding ID (in./cm)        | -0.002                            | 0.3265   | 0.3125   | 0.3125   | 0.3276   |
|                                     | (-0.0051)                         | (0.8293) | (0.7938) | (0.7938) | (0.8321) |
| Minimum Cladding                    | -0.002                            | 0.0210   | 0.0210   | 0.0210   | 0.0220   |
| Thickness (in./cm)                  | (-0.0051)                         | (0.0533) | (0.0533) | (0.0533) | (0.0559) |
| Maximum Active Fuel Length (in./cm) | +0.500                            | 150.00   | 144.00   | 168.00   | 144.00   |
|                                     | (+1.270)                          | (381.00) | (365.76) | (426.72) | (365.76) |

- (ii) For each parameter, the listed fabrication tolerance limit applies to all bins included in the table. For maximum parameters, only the positive tolerance is limited and for minimum parameters, only the negative tolerance is limited.
- (iii) All rod cladding must be composed of a Zirconium Alloy. Cladding may include a chromium coating of 25 µm thick, nominally or include an Optimized ZIRLO Liner (OZL).
- (iv) There is no restriction on the length of top and bottom annular blankets. The annular fuel pellet inner diameter in the blanket region must be  $\geq 0.155$  in. and  $\leq 0.183$  in. ( $\geq 0.3937$  cm and  $\leq 0.46482$  cm).
- (v) Any quantity of stainless steel or lead-filled replacement rods is allowed in the assembly.
- (vi) Polyethylene packing materials are limited to a maximum of 2.0 kg in the Clamshell and may not have a hydrogen density greater than 0.1325 g/cm<sup>3</sup>.

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- (vii) Non-fissile base-plate mounted core components, and spider-body core components, including burnable absorbers, secondary source rods, and axial spacer assemblies, are permitted.
- (viii) Primary neutron sources or other radioactive material are not permitted.
- (ix) Fuel rods in any location of the assembly may include ADOPT uranium dioxide pellets that are doped with up to 700 ppm Cr<sub>2</sub>O<sub>3</sub> and up to 200 ppm Al<sub>2</sub>O<sub>3</sub>.

# 5.(b)(2) PWR Group 2 Fuel Assembly

(i) PWR uranium dioxide fuel assemblies with a maximum uranium-235 enrichment of 5.0 weight percent, with an isotopic composition not exceeding a Type A quantity. The parameters of the fuel assemblies that are permitted are as follows:

**Parameters for Square Lattice Group 2 Fuel Assemblies** 

| Fuel Assembly Description           | Fabrication<br>Tolerance Limit | 16 Bin 1 | 18 Bin 1 |
|-------------------------------------|--------------------------------|----------|----------|
| Array Size                          | 1                              | 16x16    | 18x18    |
| No. of Fuel Rods per Assembly       | 1) 7 1 (                       | 236      | 300      |
| No. of Non-Fuel Holes               |                                | 20       | 24       |
| Nominal Pitch (in./cm)              | +0.0118                        | 0.563    | 0.500    |
|                                     | (+0.0300)                      | (1.430)  | (1.27)   |
| Minimum Fuel Pellet OD (in./cm)     | -0.0007                        | 0.3581   | 0.3165   |
|                                     | (-0.0018)                      | (0.9097) | (0.8039) |
| Minimum Cladding ID (in./cm)        | -0.002                         | 0.3665   | 0.3236   |
|                                     | (-0.0051)                      | (0.9310) | (0.8220) |
| Minimum Cladding Thickness (in./cm) | -0.002                         | 0.0283   | 0.0252   |
|                                     | (-0.0051)                      | (0.0720) | (0.0640) |
| Maximum Active Fuel Length (in./cm) | +0.500                         | 153.54   | 153.54   |
|                                     | (+1.270)                       | (390.00) | (390.00) |

- (ii) For each parameter, the listed fabrication tolerance limit applies to all bins included in the table. For maximum parameters, only the positive tolerance is limited and for minimum parameters, only the negative tolerance is limited.
- (iii) All rod cladding must be composed of a Zirconium Alloy. Cladding may include a chromium coating of 25 µm thick, nominally or include an Optimized ZIRLO Liner (OZL).

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- (iv) The length of top and bottom annular blankets is restricted to 50.8 cm (20 in.). The annular fuel pellet inner diameter in the blanket region must be  $\geq$ 0.155 in. and  $\leq$ 0.183 in. ( $\geq$ 0.3937 cm and  $\leq$ 0.46482 cm).
- (v) Any quantity of stainless steel or lead-filled replacement rods is allowed in the assembly.
- (vi) Polyethylene packing materials are limited to a maximum of 2.0 kg in the Clamshell and may not have a hydrogen density greater than 0.1325 g/cm<sup>3</sup>.
- (vii) Non-fissile base-plate mounted core components, and spider-body core components, including burnable absorbers, secondary source rods, and axial spacer assemblies, are permitted.
- (viii) Primary neutron sources or other radioactive material are not permitted.
- (ix) Fuel rods in any location of the assembly may include ADOPT uranium dioxide pellets that are doped with up to 700 ppm Cr<sub>2</sub>O<sub>3</sub> and up to 200 ppm Al<sub>2</sub>O<sub>3</sub>.

# 5.(b)(3) PWR Group 3 Fuel Assembly (VVER)

(i) VVER uranium dioxide fuel assemblies with a maximum uranium-235 enrichment of 5.0 weight percent, with an isotopic composition not exceeding a Type A quantity. The parameters of the fuel assemblies that are permitted are as follows:

Parameters for VVER Fuel Assemblies

| I didileters for VVERT del Assemblies |   |                    |  |  |  |
|---------------------------------------|---|--------------------|--|--|--|
| Fuel Assembly Description             | Fabrication<br>Tolerance Limit            | VV Bin 1           |  |  |  |
| Array Size                            | P. C. | 11x21 <sup>a</sup> |  |  |  |
| No. of Fuel Rods per Assembly         |   | 312                |  |  |  |
| No. of Non-Fuel Holes                 | - 4                                       | 19                 |  |  |  |
| Nominal Pitch (in./cm)                | +0.001<br>(+0.0026)                       | 0.502<br>(1.2751)  |  |  |  |
| Minimum Fuel Pellet OD (in./cm)       | -0.0005<br>(-0.0013)                      | 0.3083<br>(0.7831) |  |  |  |
| Minimum Cladding ID (in./cm)          | -0.0015<br>(-0.0051)                      | 0.3125<br>(0.7938) |  |  |  |
| Minimum Cladding Thickness (in./cm)   | -0.0015<br>(-0.0051)                      | 0.0210<br>(0.0533) |  |  |  |
| Maximum Active Fuel Length (in./cm)   | +0.500<br>(+1.270)                        | 143.70<br>(365.00) |  |  |  |

Note: a (shortest row) x (longest row).

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- (ii) For each parameter, the listed fabrication tolerance limit applies to all bins included in the table. For maximum parameters, only the positive tolerance is limited and for minimum parameters, only the negative tolerance is limited.
- (iii) All rod cladding must be composed of a Zirconium Alloy. Cladding may include a chromium coating of 25 μm thick, nominally or include an Optimized ZIRLO Liner (OZL).
- (iv) The length of top and bottom annular blankets is restricted to 50.8 cm (20 in.). The annular fuel pellet inner diameter in the blanket region must be ≥0.155 in. and ≤0.183 in. (≥0.3937 cm and ≤0.46482 cm).
- (v) Any quantity of stainless steel is allowed in the assembly.
- (vi) Polyethylene packing materials are limited to a maximum of 2.0 kg in the Clamshell and may not have a hydrogen density greater than 0.1325 g/cm<sup>3</sup>.
- (vii) Non-fissile base-plate mounted core components, and spider-body core components, including burnable absorbers, secondary source rods, and axial spacer assemblies, are permitted.
- (viii) Primary neutron sources or other radioactive material are not permitted.

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# 5.(b)(4) Loose Uranium Dioxide Fuel Rods

Uranium dioxide ( $UO_2$ ) fuel rods with a maximum uranium-235 enrichment of 7.0 weight percent, and an isotopic composition not exceeding a Type A quantity. Any fuel rod may include ADOPT uranium dioxide pellets that are doped with up to 700 ppm  $Cr_2O_3$  and up to 200 ppm  $Al_2O_3$ . Fuel rods shall be transported in the Traveller STD and XL package inside a Rod Pipe as specified in Drawing 10006E58. The fuel rods shall meet the parametric requirements given below:

| Parameter                                     | Limit   |
|---|---|
| Maximum Enrichment                            | 7.0 weight percent uranium-235  |
| Minimum Pellet Diameter (in./cm) <sup>a</sup> | 0.308 (0.7823)  |
| Maximum stack length                          | Up to rod container length  |
| Cladding Material                             | Zirconium alloy; Cladding may include a chromium coating of 25 µm thick, nominally or include an Optimized ZIRLO Liner  |
| Integral absorber                             | Including, but not limited to, gadolinia, erbia, boron, and hafnium   |
| Annular Blanket                               | No limit on length. Inner diameter must be ≥0.155 in. and ≤0.183 in. (≥0.3937 cm and ≤0.4648 cm). For inner diameters >0.183 in. (>0.4648 cm), the inner diameter must be equivalent to no more than 44% of the fuel pellet diameter. |
| Maximum number of rods per Rod Pipe           | Up to Rod Pipe capacity   |
| Wrapping or sleeving                          | <ul> <li>Polyethylene packing materials: unlimited quantity in the Rod Pipe.</li> <li>Materials with hydrogen density less than 0.1325 g/cm³.</li> </ul>  |

Note: <sup>a</sup> Maximum allowable negative tolerance is -0.0014 in. (-0.0036 cm). No limit on positive tolerance

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# 5.(b)(5) Loose Uranium Silicide Fuel Rods

Uranium silicide ( $U_3Si_2$ ) fuel rods with a maximum uranium-235 enrichment of 5.0 weight percent, with an isotopic composition not exceeding a Type A quantity. Fuel rods shall be transported in the Traveller STD package inside a Rod Pipe, as specified in Drawing 10006E58. The fuel rods shall meet the parametric requirements given below:

| Parameter                                     | Limit  |
|---|--|
| Maximum Enrichment                            | 5.0 weight percent uranium-235   |
| Minimum Pellet Diameter (in./cm) <sup>a</sup> | 0.3078 (0.7818)  |
| Maximum Pellet Diameter (in./cm) <sup>a</sup> | 0.382 (0.9703)   |
| Maximum stack length                          | Up to Rod Pipe length  |
| Cladding Material                             | Zirconium alloy; Cladding may include a chromium coating of 25 µm thick, nominally or include an Optimized ZIRLO Liner   |
| Integral absorber                             | Including, but not limited to, gadolinia, erbia, boron, and hafnium  |
| Annular Blanket                               | No limit on length. Inner diameter must be ≥0.155 in. and ≤0.183 in. (≥0.3937 cm and ≤0.4648 cm).  |
| Maximum number of rods per Rod Pipe           | 60 rods  |
| Wrapping or sleeving                          | <ul> <li>Polyethylene packing materials unlimited quantity in the Rod Pipe.</li> <li>Materials with hydrogen density less than 0.1325 g/cm<sup>3</sup>.</li> </ul> |

Note: <sup>a</sup> Maximum allowable tolerance is ±0.0014 in. (±0.0036 cm).

# 5.(c) Criticality Safety Index

| (1) | When transporting PWR Group 1 fuel assemblies as described in 5.(b)(1):             | 1.0 |
|-----|---|-----|
| (2) | When transporting PWR Group 2 fuel assemblies as described in 5.(b)(2):             | 4.2 |
| (3) | When transporting PWR Group 3 fuel assemblies as described in 5.(b)(3):             | 1.0 |
| (4) | When transporting loose rods in the Rod Pipe as described in 5.(b)(4) and 5.(b)(5): | 0.7 |

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- 6. In addition to the requirements of Subpart G of 10 CFR Part 71:
  - (a) The package must be prepared for shipment and operated in accordance with the Operating Procedures in Chapter 7 of the Traveller License Application, as supplemented.
  - (b) Each packaging must be acceptance tested and maintained in accordance with the Acceptance Tests and Maintenance Program in Chapter 8 of the Traveller License Application, as supplemented.
- 7. The package authorized by this certificate is hereby authorized for use under the general license provisions of 10 CFR 71.17.
- 8. The package is not authorized by this certificate for air transport.
- 9. Revision Nos. 11 and 12 of this certificate may be used until December 31, 2021.
- 10. Expiration date: March 31, 2025.

# REFERENCES

Safety Analysis Report, Revision No. 15 - Application for Certificate of Compliance for the Traveller PWR Fuel Shipping Package, NRC Certificate of Compliance USA/9297/AF-96.

Supplement dated August 14, 2020.

Revision Request Letter dated September 23, 2020.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

John B.

McKirgan
Date: 2020

McKirgan

Date: 2020.09.29 10:31:30

Digitally signed by John B.

-04'00'

John McKirgan, Chief Storage and Transportation Licensing Branch Division of Fuel Management Office of Nuclear Material Safety and Safeguards

Date: September 29, 2020



# UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

# SAFETY EVALUATION REPORT Docket No. 71-9297 Model Nos. Traveller STD, Traveller XL and Traveller VVER Certificate of Compliance No. 9297 Revision No. 13

# **SUMMARY**

By letter dated September 23, 2020, Westinghouse Electric Company, LLC (Westinghouse or the applicant) requested a revision to Certificate of Compliance (CoC) No. 9297 for the Model Nos. Traveller STD, XL, and VVER packages.

Westinghouse requested a clarification in the wording of CoC Condition No. 5(a)(2). The wording change, as proposed and as included in this revision of the CoC, does not affect the ability of the package to meet the requirements of 10 CFR Part 71.

# **EVALUATION**

Condition No. 5(a)(2) of Revision No. 12 of the CoC for the Model Nos. Traveller STD, XL, and VVER packages describes the packaging as designed for "fresh uranium fuel assemblies or rods with enrichment up to 5.0 weight percent". CoC Condition No. 5(b)(4) also allows 7% U<sup>235</sup> fuel rods as new contents.

Staff notes that the package was originally designed for 5% U<sup>235</sup> fuel assemblies and rods. As such, this statement in the CoC Condition is essentially still correct because the newly authorized contents of 7% U<sup>235</sup> fuel rods were allowed from a criticality evaluation which did not impact any change to the packaging design.

However, staff agrees with Westinghouse that such a sentence should be clarified for a better uniformity between the descriptions of the packaging and the contents in the Certificate. Thus, Condition No. 5(a)(2) is revised to clearly state that "The Traveller package is designed to transport fresh uranium fuel assemblies with enrichment up to 5.0 weight percent or rods with enrichment up to 7.0 weight percent". This revised text, clarifying unique enrichment limits for each allowable content, ensures that there is no contradiction between the package as originally designed and as described in all the CoC conditions.

The staff concludes that this clarification does not affect the ability of the package to meet the requirements of 10 CFR Part 71.

# **CONDITIONS**

The following changes have been made to the certificate:

Condition No. 5(a)(2) was modified to add "or rods with enrichment up to 7.0 weight percent".

Condition No. 9 has been updated to authorize the use of Revision Nos. 11 and 12 of the certificate for approximately one year.

# CONCLUSION

Based on the statements and representations contained in the application and the conditions listed above, the staff concludes that the design has been adequately described and evaluated, and the Model Nos. Traveller STD, Traveller XL, and Traveller VVER packages meet the requirements of 10 CFR Part 71 and the guidance on format and content in NUREG-1886 for joint approval in the U.S. and Canada.

Issued with Certificate of Compliance No. 9297, Revision No. 13.